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54 Catalyst and method for production of alkylamines.

57 An alkali-containing copper/zinc oxide catalyst for producing alkylamines by a catalytic reaction of ammonia or amines and binary synthesis gas ($\text{CO} + \text{H}_2$) or alcohols more in general for producing alkyl amino catalytically.



European Patent
Office

EUROPEAN SEARCH REPORT

0127874

Application number

EP 84 10 6136

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
X	EP - A - 0 034 338 (SUD-CHEMIE A.G.) * Page 3, lines 15-36; page 4, lines 1-37; page 5, lines 1-15; page 7, lines 17-34; page 8, lines 5-21; page 9, lines 16-21 *	1,2,3, 4,5,6, 7,8	C 07 C 85/06 C 07 C 85/08 B 01 J 23/80
X	EP - A - 0 024 225 (PCUK PRODUITS CHIMIQUES UGINE KUHLMANN) * Page 28, lines 30-33; page 29, lines 1-33; page 30, lines 1-33 *	1,5,7, 9,10, 11,17, 19	
A	US - A - 4 153 581 (C.E. HABERMANN) * Column 2, lines 4-11, 41-59; column 4, lines 40-53; column 7, lines 5-25 *	1,2,7, 9,10, 11,14, 19	TECHNICAL FIELDS SEARCHED (Int. Cl.4) B 01 J C 07 C
A	US - A - 4 293 716 (H.E. SWIFT et al.) * Column 3, lines 29-68; column 4, lines 1-11; column 4, lines 55-68; column 5, lines 1-11 *	1,2,3, 4,5,7, 8,9,17	
A	GB - A - 636 743 (D. Mc. NEIL et al.) * Page 5, lines 94-109; page 6, ./.	1,7,	
The present search report has been drawn up for all claims.			
Place of search The Hague		Date of completion of the search 17-01-1985	Examiner KERRES
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			



CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ All claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claims:
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

X LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions, namely:

- 1) Claims 1-10, 13, 14, 16, 17, 18: Cu/Zn catalyst
- 2) Claims 12, 15 Cu/Pd catalyst
Claims 11 and 19 partially; only what concerns the use of a Cu/Zn catalyst

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☒ None of the further search fees has been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims,

namely claims: 1-10, 13, 14, 16, 17, 18



DOCUMENTS CONSIDERED TO BE RELEVANT													
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 4)										
A, D	lines 102-111 * -- <u>US - A - 3 444 203</u> (A.N. KURTZ) -----	13, 16											
			TECHNICAL FIELDS SEARCHED (Int. Cl. 4)										
The present search report has been drawn up for all claims.													
Place of search		Date of completion of the search	Examiner										
CATEGORY OF CITED DOCUMENTS													
<table><tr><td>X : particularly relevant if taken alone</td><td>T : theory or principle underlying the invention</td></tr><tr><td>Y : particularly relevant if combined with another document of the same category</td><td>E : earlier patent document, but published on, or after the filing date</td></tr><tr><td>A : technological background</td><td>D : document cited in the application</td></tr><tr><td>O : non-written disclosure</td><td>L : document cited for other reasons</td></tr><tr><td>P : intermediate document</td><td>& : member of the same patent family, corresponding document</td></tr></table>				X : particularly relevant if taken alone	T : theory or principle underlying the invention	Y : particularly relevant if combined with another document of the same category	E : earlier patent document, but published on, or after the filing date	A : technological background	D : document cited in the application	O : non-written disclosure	L : document cited for other reasons	P : intermediate document	& : member of the same patent family, corresponding document
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